Responses to Clean Air Act Forum Participant Questions by Thomas W. Easterly, P.E., BCEE, QEP Commissioner, Indiana Department of Environmental Management

1. In your agency's experience implementing the Clean Air Act (CAA), what is working well?

The most important example of the Clean Air Act working well is that the air quality in Indiana has improved dramatically. When the first air quality standards were issued in the early 1970's, parts of Indiana exceeded at least one of the standards for every pollutant but NOx. At the end of 2009, for the first time since the Clean Air Act was passed, every Hoosier had clean air to breathe as demonstrated by all of the state meeting every clean air act standard applicable at that time. By requiring states to determine the causes of and solutions to violations of ambient air quality standards, much of the country had attained the existing health based air quality standards by the end of 2010.

What is not working well?

There are many areas where the Clean Air Act could be improved:

A. Establishing standards for pollutants with no known safe level (non-threshold pollutants): The Act's regulatory structure for setting standards for the criteria pollutants requires that they be set at a level requisite to protect public health with an adequate margin of safety. This requirement anticipates that there is some absolutely safe level for each pollutant. Health researchers have conducted studies that suggest that there is no absolutely safe level for at least three of these pollutants: $PM_{2.5}$, ozone and lead. If there is no absolutely safe level for these pollutants, the Act requires that the standard be set at zero, an unachievable goal. This problem is a major part of the reason that for those three pollutants, the level of the standard tends to decrease when the standard is reviewed every five years. This results in a repeating scenario requiring states to explain why the air was OK before the standard changed, but now even cleaner air is not OK and that we need to meet the new standard, but will likely have to continue to make improvements even when we reach the new levels because the standard is likely to continue to decrease. U.S. EPA Administrator Stephen L. Johnson recognized this issue when he established the current 0.075 ppm ozone standard in 2008 and he made the following recommendation:

"The Clean Air Act and the National Ambient Air Quality Standards (NAAQS)

1. must protect the public health and improve the overall well-being of our citizens;
2. should allow decision-makers to consider benefits, costs, risk tradeoffs, and feasibility in making decisions about how to clean the air;
3. should provide greater accountability and effective enforcement to ensure not only paper requirements but also air quality requirements are met, especially in areas with the furthest to go in meeting our standards;
4. should allow the schedule for addressing NAAQS standards (sic) to be driven by the available science and the prioritization of health and environmental concerns, taking into account the multi-pollutant nature of air pollution."

B. Quantified Clean Air Act regulatory benefits for Individual regulations often do not exceed the societal costs of those regulations: Congress should consider whether Clean Air Act actions need to have a benefit that exceeds the cost of the requirement on society. This would include Congress defining the process to be used in calculating the health based benefits and the types of benefits that may be considered. The Clean Air Act has resulted in some of the most expensive regulations issued by the federal government. However, every retrospective analysis of those regulations shows benefits that are typically at least ten times the cost of those regulations. There are two major reasons that the calculated benefits are so high: 1) U.S. EPA's value of a life extended ("premature death avoided") is about $7,000,000 per individual. While many people may be willing to pay $7,000,000 to live another day, week, month, year, or decade; most of us won't earn that much money in our lifetimes and thus extending our lives is not actually worth that amount. 2) U.S. EPA has calculated a health value for reducing exposure to pollutants even when the person's exposure is already below the air quality standard required to protect public health with an adequate margin of safety. To the extent that the standard is protective as required by the Clean Air Act, there is no health benefit in reducing a person's exposure to the pollutant.

C. Congress needs to determine how important issues like international competitiveness and comparability of standards across the world should be considered when standards and regulations are set: Currently these issues are not considered at all. Thus we get rules like the proposed Electrical Generation Unit Greenhouse Gas New Source Performance Standards which will essentially prohibit new coal fired units in the United States (except Hawaii). Since the issue U.S. EPA is trying to address is global (atmospheric concentrations of greenhouse gasses) and the major energy users who will wind up paying for the

increased cost of electrical generation must compete with imported goods, this proposed rule is almost certain to cause the relocation of some manufacturing facilities from the United States to other countries that have lower energy costs. These countries often have more greenhouse gas emissions per unit of production than the United States, so the global emissions are not reduced, but the jobs (and our economic base) are relocated to another country further adversely impacting our balance of trade. This phenomenon of companies moving various production processes to foreign countries without the environmental requirements that must be met in the United States has been going on for decades, but the Clean Air Act seems to prohibit consideration of these adverse impacts on society when setting standards or promulgating the various regulations allowed or required under the Act.

D. Congress also needs to decide if it is appropriate to regulate greenhouse gasses under the Clean Air Act: The courts have determined that such regulation is currently allowed by the Act, and that U.S. EPA has a duty to determine whether these gasses endanger human health and the environment and thus should be regulated. However, the present consequences of those decisions are significantly different from any other "pollutant" regulated by the Clean Air Act. The major difference is that U.S. EPA has not been able to set an ambient air quality standard for greenhouse gasses, because they have not been able articulate a defensible level of greenhouse gasses that protect public health with an adequate margin of safety. The regulatory scheme they are employing (setting New Source Performance Standards and mobile source standards for greenhouse gas emissions) is parallel to the regulatory scheme for toxic air pollutants (substitute Maximum Achievable Control Technology for New Source Performance Standards), but if greenhouse gasses were evaluated as toxic air pollutants, the "safe" levels would be so high that they would not be found to be toxic. Finally, since the concentrations of greenhouse gasses depend upon worldwide emissions, significant reductions in the United States will not significantly impact global levels of these gasses without similar worldwide reductions. If the actual impacts on human quality of life from fully implementing the programs necessary to cause significant reductions in greenhouse gas emissions are evaluated, it is not clear that either human health or public welfare will be improved by aggressive regulation of greenhouse gasses. The Environmental Council of the States recently passed resolution 12-1 "Challenges of Achieving Significant Greenhouse Gas (GHG) Emissions Reductions" http://www.ecos.org/files/4711_file_Resolution_12_1_Challenges_of_GHG_reductions.doc This resolution requests that the U.S. EPA develop one or more scenarios that will produce an 80 percent reduction in GHG emissions nationally, from a 2005 baseline, in 2050 or beyond; and to conduct an analysis of the costs and the

benefits associated with each such scenario along with an estimate of the costs and benefits of not obtaining these GHG reductions.

2. Do state and local governments have sufficient autonomy and flexibility to address local conditions and needs?

    - Generally yes for stationary sources—the caveat is that some states have state laws that prohibit "more stringent than federal" regulations—the Act appropriately places sanctions on states that fail to achieve air quality standards and, when properly implemented, those sanctions provide an adequate incentive to implement necessary "beyond federal" local and state laws and regulations.

    - There are significant limitations on the ability of state and local governments to address local pollution resulting from mobile sources. While a state or locality may impose vehicle emissions testing and repair requirements on vehicles registered in areas in their states, vehicles registered in other areas, even if they routinely operate within the state with the air quality problem and are gross polluters, are generally not subject to regulation by the state and locality with the air quality problem. The impact of this regulatory issue is illustrated by the persistent challenge of achieving ozone standards along the very heavily travelled I-95 corridor between Northern Virginia and Boston.

3. Does the current system balance federal, state, and tribal roles to provide timely, accurate permitting for businesses activities balancing environmental protections and economic growth?

    - No. In order to make informed investment decisions, business desire clear, consistent, permanent and timely permit decisions. Any business trying to comply with the laws should be able to understand what the requirements are and be assured that complying with a properly obtained permit will fulfill their environmental obligations allowing them to focus their attention on running their business, not on resolving environmental litigation related to changing interpretations of the requirements that applied decades in the past. In addition, even under the best conditions, obtaining a somewhat permanent approval to construct and operate a facility that anyone has any objection to often takes over one year, delaying the return on the investment decision and the projects competitiveness in the world economy.

- The permit process introduces a significant and unpredictable delay: The required permit calculations often result in projects that will actually reduce emissions being evaluated in the same manner as a project that would add significant new air pollution. In most states these major permits are expected to be issued in 270 days. However, this permit decision does not authorize operation of the new project unless the proper operating permit is issued under Title V of the Act. Many states issue the Title V permit at the same time as the new source review construction permit. Issuance of the Title V permit triggers a 60-day period where any person may petition the Administrator to object to the permit and the Administrator is allowed another 60 days to determine whether to file the objection. Thus 270+60+60 or 390 days after filing a complete and approvable application, if U.S. EPA has not objected, a business should be able to rely upon its permit. However, it is currently routine for U.S. EPA to defer making decisions on petitions to object to permits until after the person filing the petition initiates a legal action to compel U.S. EPA to make a determination on the objection petition. The U.S. EPA then sometimes decides to object literally years after the permit is issued and often after the project is completed and in operation. In Indiana, this lengthy process has resulted in unresolved U.S. EPA objections continuing after the deadline for the business to apply for renewal of the original permit.

- Permits cannot be relied upon: As illustrated by the New Source Review enforcement cases filed by U.S. EPA, since the early 1990s, even obtaining an apparently proper permit from a delegated state under federal oversight, does not protect a business making an investment from future penalties and injunctive relief for undertaking the project. If the financial impacts of the retroactively imposed penalties and injunctive relief costs were understood prior to undertaking the investment, different business decisions; including not making the investment, could be properly considered. The bulk of the billions of $ in injunctive relief have been imposed on the coal fired electrical generation, petroleum refinery, iron and steel and cement manufacturing industries. Even current cases are reexamining projects completed over 20 years ago.

- The requirements are not clear: In spite of being a part of the Clean Air Act since the 1977 amendments, the New Source Review requirements are still poorly defined and almost impossible for anyone to understand. This complexity is illustrated by the fact that U.S. EPA has never issued a final guidance document explaining what actions are acceptable under the law and regulations (in spite of issuing a draft “New Source Review Workshop

Manual, Prevention of Significant Deterioration and Nonattainment Area Permitting" in 1990) and that U.S. EPA has made available over 600 policy and guidance documents interpreting the regulations at http://www.epa.gov/region7/air/nsr/nsrpg.htm

Proposed Alternative Permit Process: Congress should establish at least two safe havens for businesses that want to make timely job creating investments in the United States.

1) U.S. EPA should be required to establish technology based emission limits that have been demonstrated to be achievable in practice, for all emitting processes. Any business agreeing in an application to comply with those technology based limits should be allowed to construct and operate in any area designated as attainment or unclassifiable without preconstruction review as long as the business is in compliance with those emission limits. Until the U.S. EPA establishes the emission limits described above, the facility would be allowed if it met the more stringent of any applicable MACT standard or the Lowest Achievable Emission (LAER) limit for a currently operating similar process.

2) Any project at an existing facility that does not result in an increase in actual emissions from the facility (and complies with all applicable technology based standards) should also be allowed to construct and operate without preconstruction review.

4. Does the CAA support a reasonable and effective mechanism for federal, state, tribal and local cooperation through State Implementation Plans? How could the mechanism be improved?

- The SIP process has improved air quality: As evidenced by the significant improvement in air quality over the forty-two years since the Act was originally passed, the SIP process has been effective and has allowed most of the U.S. to achieve air quality that is better than most of the rest of the economically developed world (and many economically impoverished communities).

- The SIP revision approval process is not predictable or timely: There is no effective mechanism to compel U.S. EPA action to approve a state's SIP revision submittal. In addition, the various requirements that must be met in order for a SIP revision to be approved result in many areas of the U.S. being designated as nonattainment areas years after they achieve and then maintain the ambient air quality standards because the impacted states and U.S. EPA cannot come to a mutually agreeable SIP. This process is further

complicated when significant U.S. EPA regulations are stayed or vacated during litigation because U.S. EPA takes the position that until the disputed regulations are replaced with unchallenged regulations there is a theoretical possibility that air quality could deteriorate due to possible increases in emissions from outside of the state asking for the SIP revision.

- Further, the lack of timely decisions under the SIP process sometimes results in perverse adverse consequences for adjacent states. In the case of Indiana, in 2007 an adjacent state modified its vehicle emissions testing and repair program to exempt pre-1996 vehicles. While we believe that our neighboring state submitted the demonstration required by 110(l) of the Clean Air Act to U.S. EPA, that demonstration was never processed as a SIP revision by U.S. EPA precluding Indiana's opportunity to object to this action and the resulting increase in mobile source emissions by our neighbor. While air quality monitoring data shows that ozone concentrations in areas in Indiana adjacent to our neighbor appeared to increase slightly, they remained well below both the current and previously applicable ambient air quality standards. When U.S. EPA made attainment designations for the 0.075 ppm ozone standard, our neighbor had a single monitor fifty miles from Indiana that exceeded the new standard by less than 1% and U.S. EPA designated that state and adjacent areas of Indiana that are in the same Consolidated Metropolitan Statistical Area as nonattainment for the new ozone standard. The nonattainment designation of our neighbor could have been avoided if Indiana had been allowed to object to our neighbor's actions that resulted in increased motor vehicle emissions. It is the height of irony that Indiana; which is downwind of our neighbor, has kept its complete automotive emissions testing and repair program, and meets the new standard by a comfortable margin is now designated nonattainment due to the wholly avoidable extra emissions caused by our neighbor not following a part of its SIP.

While many groups have studied and suggested improvements to the SIP process, two major improvements would be:

Automatic approvals of attainment SIP submittals and designation as attainment from states which attain the standards if U.S. EPA does not complete final action to approve or disapprove a SIP submittal within one year.

Some national level program that states could rely on to reduce mobile source emissions from older vehicles. The national motor vehicle emission control program in the United States has been remarkably successful and modern emission controlled vehicles emit less than 1% of the level of a comparable non-

emission controlled vehicle or a significantly malfunctioning newer vehicle. In the case of the a large city like Chicago, over 50% of the ozone precursor VOC and over 75% of the ozone precursor NOx come from mobile sources, and a significant portion of these emissions are from the very small percentage of high emitting vehicles. With the exception of imposing motor vehicle testing and repair requirements for vehicles registered in their own states, states have no control over these emissions and often cannot meet air quality standards because of these emissions which are beyond their control.

5. Are cross-state air pollution issues coordinated well under the existing framework?

- In the case of a single or small group of stationary sources, the existing Clean Air Act framework at Section 126 is effective in addressing cross state air pollution impacts.

- The rest of the cross state air pollution program suffers from a number of shortcomings including:
    i. There are no effective equity considerations in the cross state regulatory program. For example, when there are two adjacent states and the upwind state is responsible for 80% of the pollution in a downwind state that attains the standard, U.S. EPA will designate the downwind state nonattainment if it has a calculated contribution of more than 2% to the upwind states' air pollution.
    ii. There are no established thresholds for allowable or unallowable contribution by one state to actual or potential air pollution in other states. Thus regulations like U.S. EPA's Cross States Air Pollution Rule impose expensive emission reduction requirements on many facilities that would not need to be controlled if the goal was simply to meet the air quality standards, or more properly to control the excess transport of pollutants from one state to another state's nonattainment area so that the downwind state would achieve the standards if it fully implemented all reasonable emission reduction programs in its own area.
    iii. The current cross state program generally focuses on reducing emissions from easily identifiable sources such as coal fired electrical generating units that are concentrated in a relatively small area of the country, while not adequately addressing excess mobile source emissions or widespread emissions sources from every person's daily activities such as painting, cleaning and solvent evaporation.

Due to the shortcomings in the existing program, cross state air pollution tools, including designating attaining states as nonattainment for "contributing" to actual nonattainment in upwind states and imposing unnecessary emission reduction requirements on certain coal fired electrical generating facilities in attainment areas are often used as economic weapons to make sure that businesses do not receive the economic benefits of locating in areas that meet their Clean Air Act obligations. If international competitiveness were not a concern, this strategy might make sense for the high density high cost states with pollution issues. However, more often than not, the actual impact is that the investment and jobs simply happen in another country.

6. Are there any other issues, ideas or concerns relating to the role of federalism under the CAA that you would like to discuss?

When the Clean Air Act was first passed, devastating air pollution events resulting in widespread fatalities including the 1930 Meuse Valley, 1948 Donora PA, and 1952 London Fog episodes were fairly recent history. At that time, many major U.S. cities suffered from air pollution severe enough to require use of headlights and streetlights during the daytime, and it was not uncommon for states to declare air pollution emergencies.

To a large extent, the Clean Air Act has been an overwhelming success—monitored data shows that air in all of the U.S. is much cleaner than when the act passed—depending upon the pollutant, current air pollution levels are 1/3rd, 1/4th, 1/5th or even less of the levels that we were common when the Act first passed and are generally well below levels that were thought to be protective of public health at that time. This improvement is illustrated by the fact that between 2002 and 2010, the percentage of the U.S. population living in counties that fully met the 0.08 ppm 8-hour ozone standard increased from 26% to 76%.

Current science indicates that, contrary to the understanding when the Act was passed, there may not be any absolutely safe level for some pollutants. Also, most of the low hanging fruit and much of the more difficult and expensive air pollution improvements have been achieved. Future improvements are becoming more and more expensive contributing to a loss of international competiveness which may eventually result in a decline in both our quality of life and our ability to continue to improve our environment.

It is appropriate for Congress to reexamine the requirements and implementation of the Act to consider questions such as:

A. Is it time to consider international competitiveness and the air pollution standards and measured air pollution levels in productive economies around the world when setting and implementing standards for pollutants with no know safe level?

B. Should technology based air pollution regulations, such as the MACT standards for air toxics, need to demonstrate that the benefits of the rule significantly exceed the cost of the rule? If so, how should small increases in life expectancy be valued and how should air quality improvements in areas which meet health based standards be valued?

C. How should the United States approach worldwide pollutants including, mercury and greenhouse gasses, where unilateral actions may have no significant pollution reduction impact, but may adversely impact our international competitiveness and thus quality of life?

D. Can the Act be amended to allow states and localities that meet ambient air quality standards and do not have excessive impacts (defined in the Act) on other states and localities to be given authority to become internationally competitive by permitting under attainment area requirements and making permit and emission control decisions without being subject to delays or future reinterpretations by U.S. EPA, adjacent states or non government organizations?

E. Can the Act be amended to allow immediate construction under “self permitting” for facilities accepting low emission limits?